AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application:

1. (CURRENTLY AMENDED) An exercise arm assembly, comprising:

a main arm having a first end for pivoting on a frame of an exercise machine for pivoting about a first pivot axis;

a swing arm having a first end and a second end;

a pivot connection between the swing arm and the main arm which defines a second pivot axis and which allows free pivoting of the swing arm about the second pivot axis within a predetermined angular range, the swing arm being freely pivotable about the second pivot axis within the predetermined angular range, whereby a user can define the motion of the swing arm; and

a handle pivoted to the swing arm for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes.

2. (PREVIOUSLY PRESENTED) An exercise arm assembly, comprising:

a main arm having a first pivot connection for connection to a frame of an exercise machine, the pivot connection defining a first pivot axis;

a swing arm pivoted to the main arm for pivoting about a second pivot axis;

a handle pivoted to the swing arm for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes; and

the main arm having a first angled bend defining a first portion extending from the first pivot connection to the bend and a second portion extending from the bend to the swing arm pivot axis, and the swing arm having a second angled bend defining a third portion extending from the swing arm pivot axis to the second bend and a fourth portion extending from the second bend.

3. (ORIGINAL) The assembly as claimed in claim 2, wherein the swing arm has a third, inward bend adjacent the handle defining a fifth portion extending inwardly from the third bend to the handle.

4. (PREVIOUSLY PRESENTED) The assembly as claimed in claim 13, wherein each swing arm has an inboard side facing the other swing arm and an outboard side, and each handle is pivoted at the inboard side of the respective swing arm.

5. (PREVIOUSLY PRESENTED) The assembly as claimed in claim 1, wherein the pivot connection includes a range limiting device which limits the free rotation of the swing arm about the second pivot axis to the predetermined angular range.

6. (ORIGINAL) The assembly as claimed in claim 5, wherein the pivot connection comprises a pivot sleeve on one of the arms, a pivot bracket on the other arm, and a pivot pin extending through the bracket and sleeve to rotatably secure the bracket to the sleeve.

7. (WITHDRAWN) The assembly as claimed in claim 6, wherein the main arm and swing arm each have a central axis extending up to said pivot connection, and said pivot sleeve is secured to said one arm at a non-perpendicular orientation to the central axis of said one arm.

8. (ORIGINAL) The assembly as claimed in claim 6, wherein the range limiting device comprises a limiter member on the sleeve having a slot defining said angular range, and a pin mounted on the bracket for engagement in the slot.

9. (ORIGINAL) The assembly as claimed in claim 1, wherein the handle comprises a pivot bracket having a pivot shaft rotatably secured to the swing arm for rotation about said third pivot axis, and a grip rotatably mounted on the bracket for rotation about a fourth axis perpendicular to the third pivot axis.

10. (WITHDRAWN) The assembly as claimed in claim 9, wherein the grip is offset from the third pivot axis.

11. (PREVIOUSLY PRESENTED) An exercise arm assembly, comprising:

a main arm having a first pivot connection for connection to a frame of an exercise machine, the first pivot connection defining a first pivot axis;

a swing arm pivoted to the main arm for pivoting about a second pivot axis;

a handle pivoted to the swing arm for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes;

the handle comprising a pivot bracket having a pivot shaft rotatably secured to the swing arm for rotation about said third pivot axis, and a grip rotatably mounted on the bracket for rotation about a fourth axis perpendicular to the third pivot axis; and

the grip extends transverse to the third pivot axis and is not offset from the handle pivot shaft.

12. (PREVIOUSLY PRESENTED) The assembly as claimed in claim 9, further comprising a pivot sleeve secured to the swing arm, said pivot shaft being rotatably secured in said pivot sleeve, and said pivot sleeve being oriented at a non-perpendicular angle to said swing arm.

13. (CURRENTLY AMENDED) An exercise arm apparatus, comprising:

a pair of exercise arm assemblies;

each arm assembly having a main arm, a swing arm, and a handle;

each main arm having a first location for pivoting on a frame of an exercise machine for pivoting about a first pivot axis;

a pivot connection between each swing arm and the respective main arm which allows free pivoting motion of the swing arm in a predetermined angular range about a second pivot axis, the swing arm being freely rotatable about the second pivot axis within the predetermined angular range;

each handle being pivoted to the respective swing arm at a location spaced from the pivot connection for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes.

14. (WITHDRAWN) The apparatus as claimed in claim 13, including a pivot sleeve extending between the first locations of the main arms, and a pivot shaft rotatably mounted in the pivot sleeve for securing at a selected location on an exercise machine frame.

15. (PREVIOUSLY PRESENTED) An exercise arm apparatus, comprising:

a pair of exercise arm assemblies;

each arm assembly having a main arm, a swing arm, and a handle;

each main arm having a first pivot connection for pivoting on a frame of an exercise machine for pivoting about a first pivot axis;

each swing arm having a second pivot connection which is pivotally connected to the respective main arm for pivoting about a second pivot axis;

each handle being pivoted to the respective swing arm for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes; and

the main and swing arms of each arm assembly each have at least one bend separating the arm into two relatively angled portions with the second pivot axis located between the two bends.

16. (ORIGINAL) The apparatus as claimed in claim 15, wherein the exercise arm assemblies define a central axis of the exercise apparatus, each swing arm has an inboard side facing said central axis and an outboard side, and the handle is pivoted at the inboard side of the swing arm.

17. (WITHDRAWN) The apparatus as claimed in claim 13, wherein at least a first portion of the main arm and the first pivot axis define a first plane perpendicular to the first pivot axis, and the swing arm is pivoted to the main arm at a location askew from the first plane.

18. (CURRENTLY AMENDED) ~~The apparatus as claimed in claim 13 including~~ An exercise arm apparatus, comprising:

a pair of exercise arm assemblies;

each arm assembly having a main arm, a swing arm, and a handle;

each main arm having a first location for pivoting on a frame of an exercise machine for pivoting about a first pivot axis;

a pivot connection between each swing arm and the respective main arm which allows free pivoting motion of the swing arm in a predetermined angular range about a second pivot axis;

each handle being pivoted to the respective swing arm at a location spaced from the pivot connection for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes; and

a pivot connection in each arm assembly between the main arm and swing arm defining the second pivot axis, the pivot connection including a range limiting device which limits the free swinging movement of the swing arm about the second pivot axis to the predetermined angular range between an inner position and an outer position.

19. (ORIGINAL) The apparatus as claimed in claim 18, wherein the inner position comprises a rest position.

20. (ORIGINAL) The apparatus as claimed in claim 19, wherein the swing arms are angled outwardly in said rest position.

21. (ORIGINAL) The apparatus as claimed in claim 18, wherein the pivot connection comprises a pivot sleeve on one of the arms, a pivot bracket on the other arm, and a pivot pin extending through the bracket and sleeve to rotatably secure the bracket to the sleeve.

22. (ORIGINAL) The apparatus as claimed in claim 21, wherein the range limiting device comprises a limiter member on the sleeve having a slot defining said angular range, and a pin mounted on the bracket for engagement in the slot.

23. (ORIGINAL) The apparatus as claimed in claim 13, wherein each handle comprises a handle bracket having a pivot shaft rotatably secured to the swing arm for rotation about said third pivot axis, and a grip rotatably mounted on the bracket for rotation about a fourth axis perpendicular to the third pivot axis.

24. (WITHDRAWN) The apparatus as claimed in claim 23, wherein the grip is offset from the third pivot axis.

25. (CURRENTLY AMENDED) ~~The apparatus as claimed in claim 23, wherein~~ An exercise arm apparatus, comprising:

a pair of exercise arm assemblies;

each arm assembly having a main arm, a swing arm, and a handle;

each main arm having a first location for pivoting on a frame of an exercise machine for pivoting about a first pivot axis;

a pivot connection between each swing arm and the respective main arm which allows free pivoting motion of the swing arm in a predetermined angular range about a second pivot axis;

each handle being pivoted to the respective swing arm at a location spaced from the pivot connection for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes

each handle comprising a handle bracket having a pivot shaft rotatably secured to the swing arm for rotation about said third pivot axis, and a grip rotatably mounted on the bracket for rotation about a fourth axis perpendicular to the third pivot axis; and

the grip ~~extends~~ extending transverse to the third pivot axis and ~~is~~ coplanar with said third pivot axis.

26. (ORIGINAL) The apparatus as claimed in claim 23, wherein each grip has opposite ends, each end of the grip having projecting annular guards for preventing contact between the user's hands when holding the grips on each arm assembly.

27. (ORIGINAL) The apparatus as claimed in claim 23, wherein each handle bracket is generally c-shaped and has opposite, parallel arms, the grip having a longitudinal axis and being rotatably mounted between the arms of the handle bracket for rotation about said longitudinal axis.

28. (ORIGINAL) The apparatus as claimed in claim 27, wherein each arm of the handle bracket has an outwardly projecting bumper aligned with the axis of said grip.

29. (ORIGINAL) The apparatus as claimed in claim 13, wherein each pivot axis is non-perpendicular to the other two pivot axes.

30. (CANCELED)

31. (CANCELED)

32. (PREVIOUSLY PRESENTED) The apparatus as claimed in claim 13, wherein the first locations of the main arms are secured together for securing at a selected location on an exercise machine frame by a single pivot connection.

33. (CANCELED)

34. (PREVIOUSLY PRESENTED) An exercise machine, comprising:

a support frame having a base, an upright portion extending upwardly from the base and having an upper end, and an upper support extending transversely from the upper end of the upright portion;

a seat supported on the frame;

a pair of exercise arm assemblies pivotally secured to the frame to extend on opposite sides of said seat;

each arm assembly having a main arm, a swing arm, and a handle;

each main arm having a first end pivoted to the frame for pivoting about a first pivot axis and a second end;

each swing arm having a pivot connection to the respective main arm which allows pivoting of the swing arm relative to the main arm about a second pivot axis;

each handle being pivoted to the respective swing arm for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes;

the main arms being pivoted to the upper support and the swing arms depending downwardly from the upper support, each swing arm being pivoted to the respective main arm at a location spaced below the first end of the main arm; and

each main arm having a first downward bend separating the main arm into a first portion extending from the first end to the first bend and a second portion inclined downwardly from the first portion, and the swing arm having a second bend separating the swing arm into a first portion extending from the main arm to the second bend, and a second portion directed inwardly from the second bend towards the other swing arm.

35. (ORIGINAL) The machine according to claim 34, including a pivot connection in each arm assembly between the main arm and swing arm defining the second pivot axis, the pivot connection including a range limiting device for limiting the swing of the swing arm about the second pivot axis to a predetermined angular range between an inner, rest position and an outer position.

36. (ORIGINAL) The machine as claimed in claim 35, wherein each handle comprises a pivot bracket having a pivot shaft pivotally connected to said swing arm, and a grip rotatably mounted in said pivot bracket for rotation about a fourth pivot axis transverse to the third pivot axis.

37. (PREVIOUSLY PRESENTED) The machine as claimed in claim 34, wherein each handle is located inboard of the respective swing arm facing said seat.

38. (PREVIOUSLY PRESENTED) The machine as claimed in claim 34, including a pivot connection between each main arm and the frame defining a respective first pivot axis, said pivot connection including a range of motion device having a series of spaced holes extending along an arc, and each main arm having a connecting pin for releasably connecting said main arm to said range of motion device at any one of a series of selected orientations relative to said range of motion device.

39. (CURRENTLY AMENDED) An exercise machine, comprising:

a support frame having a base, an upright portion extending upwardly from the base and having an upper end, and an upper support extending transversely from the upper end of the upright portion;

a seat supported on the frame;

a pair of exercise arm assemblies pivotally secured to the frame which extend on opposite sides of said seat;

each arm assembly having a main arm, a swing arm, and a handle;

each main arm pivoted to the frame for pivoting about a first pivot axis;

each swing arm pivoted to the respective main arm for pivoting about a second pivot axis;

each handle being pivoted to the respective swing arm for pivoting about a third pivot axis, each pivot axis being non-parallel to the other two pivot axes, and at least one pivot axis being non-perpendicular to the other two pivot axes; and

a pivot connection in each arm assembly, each pivot connection comprising a pivot bracket secured to ~~the~~ one of the arms and having a pair of spaced end plates projecting over ~~the~~ the other arm, and a pivot pin extending between the end plates along said second pivot axis and rotatably linked to the other arm.

40. (ORIGINAL) The machine as claimed in claim 39, wherein the pivot connection includes a range limiting device for limiting the swing of the swing arm about the second pivot axis to a predetermined angular range, the range limiting device being mounted between said end plates.

41. (PREVIOUSLY PRESENTED) The machine as claimed in claim 40, wherein the pivot connection includes a sleeve secured to said other arm and rotatably engaged over said pivot pin, the range limiting device comprising a first part projecting from said sleeve in a direction transverse to said second pivot axis and having a notch defining said predetermined angular range, and a second part extending between said end plates and engaging transversely in said notch for travel along said notch as said swing arm rotates about said second pivot axis.